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Exhibit R-2, RDT&E Budget Item Justification					Date: May 2009			
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07			R-1 ITEM NOMENCLATURE Long Haul Communications - DCS/PE 0303126K					
Cost (\$ in millions)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Total Program Element	16.591	8.485	9.406					
Defense Information System Network (DISN) Systems Engineering Support/T82	1.506	5.514	7.458					
National Emergency Action Decision Network (NEADN)/PC01	15.085	2.971	1.948					
<p>A. Mission Description and Budget Item Justification: Funds finance the systems engineering, development, test, and integration of equipment and products into the DISN or other networks to optimize system performance.</p> <p><u>DISN Systems Engineering Support:</u> Funding will result in the following capabilities: 1) Improved information access for customers in terms of ordering, status, and health of DISN services; and increased operational efficiencies of integrating and sharing information about the DISN; 2) improvements to the Secure Voice over Internet Protocol (VoSIP), the development of critical features for Secure Voice over IP Real Time Services (RTS) that are beyond the features of commercial VoIP offerings; 3) implement technologies into the National Command and Control System (NCCS) as part of the Distributed Ground Network supporting the United States Strategic Command; and, 4) refreshment of the SDS-1 switches which are at end-of-life and must be replaced by modifying the current DSS-2A Secure Voice switch which is vital to the Defense Red Switch Network.</p> <p><u>NEADN/PNVC:</u> Funding focuses upon delivering a near toll-quality voice conferencing capability for the President, Secretary of Defense, Chairman, Joint Chiefs of Staff, and other national/military leaders using the Advanced Extremely High Frequency (AEHF) satellite in synchronization with compatible AEHF terminal fielding schedules.</p> <p>This Program Element is under Budget Activity 07 because it involves efforts supporting operational systems development.</p>								

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B. Program Change Summary:

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
FY 2009 President's Budget	16.382	8.508	7.568
FY 2010 Budget Estimate	16.591	8.485	9.406
Total Adjustments	0.209	-0.023	1.838

Change Summary Explanation:

The FY 2008 adjustments reflect a below threshold reprogramming action to support the DISN program. FY 2009 reflects Congressional reductions of -\$0.023 million due to Section 8101 Economic Assumptions, as cited in the FY 2009 Conference Report. FY 2010 adjustments are due to increased efforts and expansion of Systems Engineering for Defense Red Switch Network integration secure voice system components and peripherals.

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Exhibit R-2a, RDT&E Project Justification		Date: May 2009						
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07		PROGRAM NAME AND NUMBER Defense Information Systems Network (DISN)Systems Engineering Support/T82						
Cost (\$ in millions)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Defense Information Systems Network (DISN)Systems Engineering Support/T82	1.506	5.514	7.458					

A. Mission Description and Budget Item Justification:

Funds Systems Engineering for Operations Support Systems (OSS) which are comprised of the service, network, and element management; service support systems and network operations of the DISN and other entities. Specifically, provides system engineering for a Single Sign-on solution and Web-Based Mediation Administration.

Provides systems engineering for Secure Voice over Internet Protocol (VoIP) Real Time Services (RTS) for the DISN-wide network element management of day-to-day operations of the DoD and serves as the core DoD wartime communications for the President and Secretary of Defense, the Joint Chiefs of Staff (JCS), the Combatant Commanders, and other critical users. Provides the engineering to consolidate operational communications networks into DISN and supports the convergence of Service and Agency network services (i.e. telephony, video, etc) into the Global Information Grid (GIG). Also funds system engineering evaluations and development of critical features for Secure VoIP RTS that is beyond the features of commercial VoIP offerings.

Funds are for software development and system integration and testing for modifying the current technology DSS-2A Secure Voice switch with improvements to increase the capacity of the switch so that it can be used to replace the large SDS-1 model switches in the DRSN which are at end-of-life and must be replaced. This funding provides incremental multiyear effort to scale up the existing DSS-2A switch capacity so that the Services and Agencies can purchase and install the modified switch to replace their obsolete SDS-1 switches. Secure voice switches must meet a number of military unique requirements for multilevel security, extensive conferencing and conference management capabilities and features, and gateway functions that are not available in commercial products. Starting in FY 2010, System Engineering for DRSN shifts to funding and executing Engineering Change Proposals to update switch components and peripherals to replace obsolete parts and ensure continued logistics supportability.

B. Accomplishments/Planned Program:

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Subtotal Cost	0.903	0.922	1.490

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Defense Information Systems Network (DISN)Systems Engineering Support/T82	1.506	5.514	7.458					

Single Sign-On - FY 2008 project continued into FY 2009. FY 2009 - Provides systems research, evaluation, test and development of a centralized DISN OSS web-based content application aimed at integrating functionality, data, searching, and maintenance of several key DISN OSS applications. The objective of the OSS Central is to provide a single user interface for DISN service orders, service reports, network alarms, trouble tickets, network inventory, network performance information, and a central search capability to internal and external DISN user groups. It will provide a Single Sign-on solution which will enable consumers of the DISN OSS information to access all authorized information from a single account.

Web Based Mediation Admin - FY 2008 project continued into FY 2009. FY 2009 - Provides systems research, evaluation, test, and development of a web-based mediation/administration utility. This utility will provide functionality to move the data mapping and configuration activities from software development to application configuration, allowing Tier III sustainment personnel to make faster changes to the data mediation system in support of changing requirements.

Network Management Solutions for new DISN Element Technologies - FY 2010 - Provides network management solutions for new DISN technology elements yet to be defined during technology refresh efforts and future DISN catalog services. Includes systems engineering to develop and insert new communications technologies into the DISN by performing assessments and proof of concept implementations. Engineers the insertion of technology into the DISN Secure VoIP, IP Class of Service/Quality of Service (CoS/QoS), Multi-Level Security for Voice Real Time Services. New efforts involved developing overarching design for next generation routing/QoS/CoS, and IP enabled Services such as Telephony.

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Subtotal Cost	0.603	0.615	0.000

Systems Engineering for Secure Voice over Internet Protocol (VoIP) - FY 2008 - Provided systems engineering to develop and insert new communications technologies into the DISN by performing assessments and proof of concept implementations. In FY 2008 initiated project for development and implementation of Active Directory services for the Voice over Secure IP (VoSIP) service. In FY 2009 will implement the Voice Over Secure IP Active Directory service and initiate engineering study for possible solutions to requirement for Multi-Level Security for Voice Real Time Services. FY 2010

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Cost (\$ in millions)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Defense Information Systems Network (DISN)Systems Engineering Support/T82	1.506	5.514	7.458					

will continue to fund research into solutions for Multi-Level Security for eventual insertion of the technology into the DISN Secure VoIP, as well as IP Class of Service/Quality of Service (CoS/QoS), new efforts involved in developing overarching design for next generation routing/QoS/CoS, and IP enabled Services such as Telephony.

Subtotal Cost	<u>FY 2008</u> 0.000	<u>FY 2009</u> 3.977	<u>FY 2010</u> 3.978
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Systems Engineering for DSS-2A Secure Voice Switch Replacement - In FY 2009 supports system integration, software modification, system testing and information assurance validation and accreditation of a modified version of the existing DSS-2A secure voice switch, with delivery of phase II prototype system for government testing and accreditation, while continuing development toward the Phase III final configuration system. This modification is required because the legacy switch is at end-of-life and is not expected to be logistically supportable past FY 2010. In addition, this modified version will support up to three times the capacity of the current DSS-2A model, with all the same military unique features and capabilities. FY 2010 will see the delivery of the initial Phase III system for testing and accreditation, with continued project cleanup and testing support. Final result will be a complete large capacity secure voice switch capable of replacing the large obsolete SDS-1 switches currently in use in the DRSN and the White House Communications Agency controlled secure voice network. Once developed and accredited, the services and agencies will procure and install the switches.

Subtotal Cost	<u>FY 2008</u> 0.000	<u>FY 2009</u> 0.000	<u>FY 2010</u> 1.990
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Systems Engineering for DRSN Components and Peripherals - FY 2010 will fund a regular process to re-engineer and redesign DRSN switch components and peripherals to address electronic component obsolete parts, issues and maintain the viability of the DRSN switch system. Several Engineering Change Proposals (ECP) per year will be funded for development and testing of redesigned and replacement parts in order to maintain the logistics supportability of the entire system.

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APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/07				PROGRAM NAME AND NUMBER Defense Information Systems Network (DISN)Systems Engineering Support/T82				
Cost (\$ in millions)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Defense Information Systems Network (DISN)Systems Engineering Support/T82	1.506	5.514	7.458					

C. Other Program Funding Summary: N/A

D. Acquisition Strategy: Procure Operations Support Systems service and tools from under the DISN Global Services (DGS) contract and a variety of commercial off-the-shelf vendors. For Secure VoIP Real Time Services (RTS), MIPR funds to NSA to contract with their security technology firms for studies and specification development for Multi-Level Security implementations for Secure Voice RTS. Use existing DISA contracts to study and develop specifications for Internet Protocol (IP) Class of Service/Quality of Service and Assured Service. The DSS-2A Large switch modification will use an existing Air Force contract with the DSS-2A manufacturer to perform the development and modification work, system integration and testing support.

E. Performance Metrics:

1. Planned versus actual schedule (difference in days) for major milestones/deliverables.
2. Number of planned versus actual funds spent.
3. Adherence of contractor deliverables to SOW specifications.
4. Compliance with Performance Surveillance Plans contained in contracted efforts.

Specific OSS metrics:	<u>FY 2008</u>	<u>FY 2009 & FY 2010</u>
Evaluation of COTS Network Configuration Management Tools	100% Complete	-
Evaluation of COTS IP Performance Management Tools	100% Complete	-
Development of the OSS Central	-	100% Planned
Data Mediation - Phase 1 (ICATS, DDOE, ADIMSS, WWOLS, TMS)	-	100% Planned
Specific DRSN VoSIP Metrics:		
Delivery and successful award of contract	-	100% Planned

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Exhibit R-3 RDT&E Project Cost Analysis										Date: May 2009				
Appropriation/Budget Activity				Program Element						Project Name And Number				
RDT&E, Defense-Wide/07				PE 0303126K						T82/DISN Systems Engineering Support				
<u>Cost Category</u>	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total PY Cost (\$000)</u>	<u>FY08 Cost (\$000)</u>	<u>FY08 Award Date</u>	<u>FY09 Cost (\$000)</u>	<u>FY09 Award Date</u>	<u>FY10 Cost (\$000)</u>	<u>FY10 Award Date</u>	<u>FY11 Cost (\$000)</u>	<u>FY11 Award Date</u>	<u>Cost To Complete (\$000)</u>	<u>Total Cost (\$000)</u>	<u>Target Value of Contract</u>
Single Sign-on	DGS & Time and Materials	SAIC - DISA	0.653	0.394	03/08	0.350	03/09	N/A	N/A			0.744	1.665	N/A
Web-Based Mediation	DGS & Time and Materials	Apptis - DISA	0.831	0.509	3/08	0.432	03/09	0.460	03/10			1.810	3.176	N/A
Network Management Solutions for New DISN Element Technologies	DGS & Time and Materials	SAIC - DISA	N/A	N/A	N/A	0.140	12/08	0.777	03/10			Cont'g	4.502	N/A
Systems Engineering for VoIP	Various CPFF	Various performers	N/A	0.603	09/08	0.615	05/09	N/A	N/A			Cont'g	9.343	N/A
Systems Engineering for DRSN Components & Peripherals	AF CCSS Contract Time & Materials	Raytheon, FL	N/A	N/A	N/A	N/A	N/A	1.990	11/09			Cont'g	Cont'g	N/A
Systems Engineering for DSS-2A Secure Voice Switch Replacement	AF CCSS Contract, Time & Materials	Raytheon, FL	7.591	N/A	N/A	3.977	11/08	3.978	11/09			Cont'g	Cont'g	N/A
		TOTAL	9.075	1.506		5.514		7.458						

Exhibit R-4, RDT&E Program Schedule Profile														Date: May 2009																											
Appropriation/Budget Activity RDT&E, Defense-Wide/07														Program Element Number and Name PE 0303126K, Long Haul Communications - DCS														Project Number and Name T82, Defense Information System Network (DISN) Systems Engineering Support													
Fiscal Year	FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015												
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4									
Single Sign-On	Proof of Concept				Development																																				
Web-Based Mediation Admin	Analysis Design								Implementation																																
Network Management Solutions for New DISN Element Technologies					User Acceptance				Data Definition				Implementation																												
Systems Engineering for Secure Voice over Internet Protocol (VoIP)	Active Directory				QoS/AS																																				
Systems Engineering for DRSN Components and Peripherals									Processor ECP																																
Systems Engineering for DSS-2A Secure Voice Switch Replacement	PH 1				PH 2																																				

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Exhibit R-4a Schedule Detail		DATE: May 2009							
Appropriation/Budget Activity	Program Element Number And Name			Project Number And Name					
RDT&E, Defense-Wide/07	PE 0303126K/Long Haul Communications-DCS			T82/DISN Systems Engineering Support					
<u>Schedule Profile</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	
Single Sign-On:									
Analyze Requirements	1Q								
Design	2Q-4Q	1Q-4Q							
Implementation		1Q							
Test and Rework		2Q							
Amend Authority to Operate		3Q							
Deployment		2Q-4Q							
		3Q-4Q							
Web-Based Mediation Admin:									
Analyze Requirements	1Q		1Q						
Design	2Q-4Q	1Q	2Q-4Q						
Implementation		2Q							
Test and Rework		3Q							
Amend Authority to Operate		2Q-4Q							
Deployment		3Q-4Q							
Network Management Solutions for New DISN Element Technologies		2Q-4Q	1Q-4Q						
Systems Engineering for Secure Voice over Internet Protocol (VoIP)	4Q	2Q-3Q	1Q-4Q						
Systems Engineering for DRSN Components and Peripherals			1Q-4Q						

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R-4a Program Schedule Detail

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Exhibit R-4a Schedule Detail		DATE: May 2009							
Appropriation/Budget Activity	Program Element Number And Name	Project Number And Name							
RDT&E, Defense-Wide/07	PE 0303126K/Long Haul Communications-DCS	T82/DISN Systems Engineering Support							
<u>Schedule Profile</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	
Systems Engineering for DSS-2A Secure Voice Switch Replacement		1Q-4Q	1Q-4Q						

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Exhibit R-2a, RDT&E Project Justification					Date: May 2009				
Appropriation/Budget Activity RDT&E, Defense-Wide/07		Project Name And Number National Emergency Action Decision Network (NEADN)/PC01							
Cost (\$ in millions)		FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
National Emergency Action Decision Network (NEADN)/PC01		15.085	2.971	1.948					

A. Mission Description and Budget Item Justification:

As the National Emergency Action Decision Network (NEADN) project lead and system engineer, this PE funds the system engineering, planning, development, and testing of conferencing equipment for senior leaders. Specifically, this funding supports the acquisition activities necessary to identify equipment of the Presidential and National Voice Conferencing (PNVC) baseband (cryptographic and voice encoder/vocoder) equipment needed to provide survivable, near toll-quality voice conferencing capability for the President, Secretary of Defense, Chairman, Joint Chiefs of Staff, and other national/military leaders. This project includes the critical and essential engineering required to develop new vocoder and cryptographic equipment. These baseband devices implement new technology capabilities such as multi-stream cryptography/vocoding and information technology capabilities such as baseband Ethernet interfaces supporting baseband Internet Protocol (IP) addressing. This project supports development of DOD requirements for voice conferencing using the Advanced Extremely High Frequency (AEHF) satellite in synchronization with AEHF terminal fielding schedules.

B. Accomplishments/Planned Program:

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Subtotal Cost	15.085	2.971	1.948

NEADN/PNVC Systems Engineering - Conduct analyses for continuity of NEADN voice conferencing for national/military leaders through the PNVC deployment. Continue engineering, technical analysis, development and coordination to ensure terminal, baseband, and satellite synchronization for voice conferencing amongst senior leaders. Research alternative terminal implementations for special users participation in PNVC. Update the PNVC Baseband Interface Group (BIG) (crypto/vocoder) technical specifications.

In FY 2008 funding was used to assess the feasibility of alternative terminal implementations to support special users participation in PNVC and supported an update to PNVC Baseband Interface Group (BIG) (crypto/vocoder) technical specifications. In FY 2009 funding will result in the development of a requirements document for special users, a defined Concept of Operations (CONOPS) for PNVC to fully utilize the enhanced capabilities provided by the system, and

Exhibit R-2a, RDT&E Project Justification					Date: May 2009				
Appropriation/Budget Activity RDT&E, Defense-Wide/07		Project Name And Number National Emergency Action Decision Network (NEADN)/PC01							
Cost (\$ in millions)		FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
National Emergency Action Decision Network (NEADN)/PC01		15.085	2.971	1.948					

the development of technical specifications of the Multistream Summing Device III (MSD-III) to manage PNVC conference. In FY 2010 funding will be used to update the PNVC Capabilities Production Document (CPD).

C. Other Program Funding Summary:

	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>
O&M, DW	103.378	106.708	104.564					
Procurement, DW	64.237	91.059	90.718					

D. Acquisition Strategy: Engineering support services for the NEADN is provided by existing DOD contracts and FFRDC support.

E. Performance Metrics:

PNVC project metrics track the development of various documents: Project Management Plan (PMP), Concept of Operations (CONOPS), System Engineering Plan (SEP), and other documents needed to manage the project. Data metrics based on cost, schedule, and performance are used for the NEADN development and certification efforts.

Adherence of contractor deliverables to SOW specifications	<u>FY 2008</u> Target Met	<u>FY 2009 & FY 2010</u> Planned
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Exhibit R-3 RDT&E Project Cost Analysis										Date: May 2009				
Appropriation/Budget Activity RDT&E, Defense-Wide/07			Program Element PE 0303126K					Project Name And Number National Emergency Action Decision Network (NEADN)/PC01						
<u>Cost Category</u>	<u>Contract Method & Type</u>	<u>Performing Activity & Location</u>	<u>Total PY Cost (\$000)</u>	<u>FY08 Cost (\$000)</u>	<u>FY08 Award Date</u>	<u>FY09 Cost (\$000)</u>	<u>FY09 Award Date</u>	<u>FY10 Cost (\$000)</u>	<u>FY10 Award Date</u>	<u>FY11 Cost (\$000)</u>	<u>FY11 Award Date</u>	<u>Cost To Complete (\$000)</u>	<u>Total Cost (\$000)</u>	<u>Target Value of Contract</u>
Systems Engineering for NEADN/PNVC	FFRDC	Aerospace Corp, Falls Church, VA	N/A	12.978	11/07	0.390	11/08	0.400	11/09			Cont'g	1.665	N/A
Systems Engineering for NEADN/PNVC	CPFF	Booz Allen Hamilton, McLean, VA	N/A	1.596	8/08	0.480	11/08	0.500	3/10			Cont'g	3.176	N/A
Systems Engineering for NEADN/PNVC	Various	Various	N/A	0.511	N/A	2.101	N/A	1.048	N/A			Cont'g	4.502	N/A
TOTAL				15.085		2.971		1.948				Cont'g	9.343	N/A

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Exhibit R-4, RDT&E Program Schedule Profile																Date: May 2009																
Appropriation/Budget Activity RDT&E, Defense-Wide, 07								Program Element Number and Name PE 0303126K, Long Haul Communications - DCS								Project Number and Name PC01, National Emergency Action Decision Network (NEADN)																
Fiscal Year	FY 2008				FY 2009				FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Systems Engineering for NEADN/PNVC	△	△	△	△	△	△	△	△	△	△	△	△																				
GEMS Eng Study			△	△	△	△																										
Conference Management Study			△	△	△	△																										
PNVC CONOPS									△	△	△	△	△																			
PNVC BIG Specification Refresh											△	△	△																			
PNVC Capabilities Production Doc											△	△	△																			

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Exhibit R-4a, RDT&E Program Schedule Detail		Date: May 2009
Appropriation/Budget Activity RDT&E, Defense-Wide/07	Program Element Number And Name PE 0303126K/Long Haul Communications - DCS	Project Number And Name PC01/National Emergency Action Decision Network (NEADN)

<u>Schedule Profile</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>
Systems Engineering for NEADN/PNVC	1Q-4Q	1Q-4Q	1Q-4Q					
GEMS Eng Study	3Q-4Q	1Q-2Q						
Conference Management Study	3Q-4Q	1Q-2Q						
PNVC CONOPS		4Q	1Q-4Q					
PNVC BIG Specification Refresh			2Q-4Q					
PNVC Capabilities Production Doc			2Q-4Q					
PNVC/DISN Interface Development								